

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P584294

Luminaire Tested: **HC830D010-HM82555840-81RWWH**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584294  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-15)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC830D010-HM82555840-81RWWH  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3447.4 lumens  
Efficiency: N/A  
Efficacy: 123.1 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.16  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

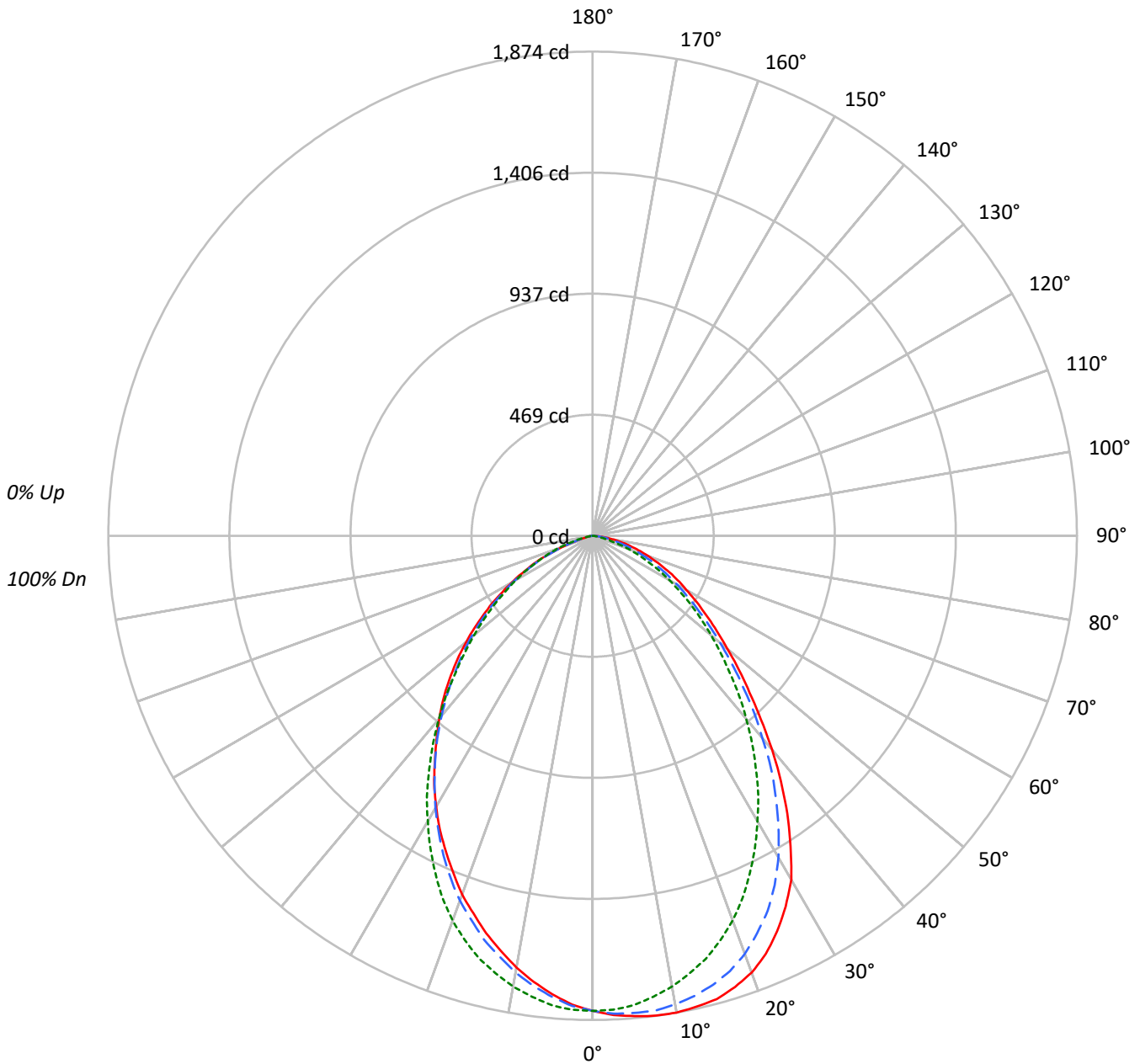
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	111	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77																			
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67																			
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59																			
5	81	70	62	56	79	69	62	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	41	37	47	41	37	46	41	36	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	56705	56705	56705
5°	57773	56457	55148
10°	58669	55472	53133
15°	59264	54092	50830
20°	59038	52002	48488
25°	57484	49002	45783
30°	54742	45427	43120
35°	49431	41461	40053
40°	43430	37211	37114
45°	37486	32707	34120
50°	32631	28693	30602
55°	28940	24918	26655
60°	25816	21055	22128
65°	23269	17088	17453
70°	20665	12812	10332
75°	17812	7423	4444
80°	13727	2664	1332
85°	8845	885	885



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CATALOG NUMBER: HC830D010-HM82555840-81RWWH

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	172.6	5.0
10°-20°	480.6	13.9
20°-30°	679.7	19.7
30°-40°	716.2	20.8
40°-50°	608.7	17.7
50°-60°	438.3	12.7
60°-70°	252.8	7.3
70°-80°	86.5	2.5
80°-90°	11.9	0.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1332.9	38.7
0°-40°	2049.1	59.4
0°-60°	3096.1	89.8
0°-90°	3447.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3447.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1839	1839	1839	1839	1839	
5°	1866	1854	1824	1792	1782	178
15°	1856	1799	1694	1620	1592	523
25°	1690	1602	1440	1365	1346	775
35°	1313	1236	1101	1062	1064	818
45°	860	820	750	755	782	668
55°	538	496	464	481	496	484
65°	319	274	234	229	239	317
75°	150	112	62	40	37	158
85°	25	15	2	2	2	34
90°	0	0	0	0	0	



TEST NUMBER: P584294

CATALOG NUMBER: HC830D010-HM82555840-81RWWH

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1838.9	1838.9	1838.9	1838.9	1838.9	1838.9	1838.9	1838.9	1838.9	1838.9	1838.9
2.5°	1856.4	1858.9	1856.4	1856.4	1853.9	1851.4	1848.9	1846.4	1841.4	1836.4	1836.4
5°	1866.4	1871.2	1866.4	1866.4	1858.9	1853.9	1848.9	1841.4	1831.4	1823.9	1823.9
7.5°	1873.7	1873.7	1873.7	1866.4	1861.4	1853.9	1841.4	1828.9	1816.4	1804.1	1799.1
10°	1873.7	1873.7	1871.2	1861.4	1856.4	1841.4	1828.9	1811.6	1794.1	1776.6	1771.6
12.5°	1866.4	1868.9	1863.9	1853.9	1841.4	1823.9	1806.6	1784.1	1764.1	1744.3	1734.3
15°	1856.4	1853.9	1848.9	1836.4	1821.4	1799.1	1781.6	1756.6	1729.3	1704.3	1694.4
17.5°	1831.4	1831.4	1823.9	1811.6	1791.6	1766.6	1739.3	1711.8	1682.0	1654.5	1642.0
20°	1799.1	1799.1	1789.1	1774.1	1754.3	1721.8	1691.9	1659.5	1624.6	1597.2	1584.7
22.5°	1751.8	1754.3	1741.8	1724.3	1701.8	1664.5	1634.6	1594.7	1559.8	1527.4	1517.5
25°	1689.5	1694.4	1682.0	1664.5	1634.6	1602.2	1564.8	1527.4	1487.6	1455.2	1440.2
27.5°	1617.2	1619.7	1607.2	1589.7	1559.8	1525.0	1487.6	1447.7	1410.4	1375.4	1360.5
30°	1537.4	1527.4	1522.5	1500.0	1467.7	1437.7	1395.4	1363.0	1323.1	1293.3	1275.8
32.5°	1425.3	1430.2	1415.3	1397.9	1372.9	1338.1	1303.1	1265.8	1228.5	1206.0	1193.5
35°	1313.1	1318.1	1310.6	1293.3	1265.8	1236.0	1201.0	1173.7	1141.2	1113.9	1101.4
37.5°	1196.0	1196.0	1191.0	1181.0	1161.2	1133.7	1098.9	1071.4	1044.1	1021.6	1014.1
40°	1078.9	1073.9	1071.4	1064.0	1046.6	1021.6	999.2	976.8	949.4	934.4	924.4
42.5°	964.3	964.3	959.3	951.8	934.4	922.0	899.5	874.6	854.7	839.7	839.7
45°	859.6	862.1	854.7	849.7	839.7	819.8	799.8	782.4	765.0	755.0	750.0
47.5°	767.5	767.5	760.0	755.0	745.0	727.5	710.2	695.2	682.7	675.2	672.7
50°	680.2	680.2	680.2	667.7	655.4	642.9	630.4	612.9	605.4	600.6	598.1
52.5°	605.4	603.1	603.1	593.1	580.6	565.6	553.1	538.3	530.8	525.8	528.3
55°	538.3	538.3	535.8	523.3	510.8	495.8	483.4	471.0	466.0	461.0	463.5
56°	510.8	510.8	508.3	498.3	483.4	471.0	456.0	443.5	436.0	438.5	438.5
57°	490.8	485.9	485.9	473.5	461.0	443.5	431.1	418.6	413.7	411.2	411.2
58°	466.0	463.5	461.0	448.5	436.0	421.1	408.7	396.2	388.7	388.7	386.2
59°	441.0	441.0	436.0	426.1	413.7	398.7	386.2	373.8	366.3	363.8	363.8
60°	418.6	421.1	413.7	403.7	393.7	376.2	361.3	351.3	343.9	341.4	341.4
61°	398.7	398.7	393.7	381.2	368.8	356.3	341.4	328.9	323.9	318.9	318.9
62°	381.2	376.2	373.8	361.3	348.9	333.9	321.4	309.0	301.5	296.5	299.0
63°	358.8	356.3	351.3	341.4	328.9	314.0	299.0	289.0	281.6	274.1	276.6
64°	341.4	338.9	331.4	321.4	309.0	294.0	279.1	269.1	264.1	256.7	254.2
65°	318.9	316.5	314.0	301.5	289.0	274.1	261.6	251.7	244.2	239.2	234.2
66°	299.0	301.5	296.5	286.5	271.6	259.1	241.7	231.7	226.7	219.3	214.3
67°	281.6	281.6	276.6	266.6	251.7	239.2	226.7	214.3	206.8	199.4	196.9
67.5°	271.6	271.6	266.6	254.2	244.2	229.2	216.8	206.8	196.9	191.9	186.9
68°	261.6	261.6	259.1	249.2	236.7	221.7	209.3	196.9	186.9	179.4	176.9
69°	244.2	246.7	241.7	231.7	219.3	204.3	191.9	181.9	171.9	164.4	159.4
70°	229.2	226.7	221.7	211.8	199.4	189.4	176.9	164.4	154.5	144.5	142.1
71°	209.3	209.3	204.3	196.9	184.4	171.9	159.4	149.5	139.6	127.1	124.6
72°	194.4	194.4	189.4	179.4	169.4	156.9	144.5	132.1	124.6	112.1	107.1
72.5°	184.4	186.9	181.9	171.9	161.9	147.0	137.1	127.1	114.6	104.6	99.6
73°	179.4	176.9	174.4	164.4	152.0	142.1	129.6	119.6	107.1	97.1	92.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	<i>112.1</i>	112.1	109.6	99.6	89.7	79.8	69.8	59.8	49.8	39.8	34.8
80°	<i>77.3</i>	79.8	74.8	69.8	62.3	52.3	42.3	34.8	25.0	20.0	15.0
82.5°	<i>49.8</i>	49.8	47.3	42.3	37.3	29.8	25.0	17.5	12.5	10.0	7.5
85°	<i>25.0</i>	27.5	25.0	22.5	17.5	15.0	12.5	7.5	5.0	2.5	2.5
87.5°	<i>10.0</i>	10.0	10.0	7.5	7.5	5.0	2.5	2.5	2.5	0.0	0.0
90°	<i>0.0</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1838.9	1838.9	1838.9	1838.9	1838.9	1838.9	1838.9	1838.9	1838.9	1838.9
2.5°	1831.4	1831.4	1826.4	1823.9	1821.4	1818.9	1816.4	1813.9	1813.9	1816.4
5°	1816.4	1811.6	1801.6	1799.1	1791.6	1789.1	1784.1	1781.6	1784.1	1781.6
7.5°	1794.1	1784.1	1771.6	1766.6	1756.6	1751.8	1744.3	1744.3	1739.3	1741.8
10°	1764.1	1749.3	1734.3	1724.3	1716.8	1709.3	1704.3	1699.3	1696.9	1696.9
12.5°	1726.8	1709.3	1694.4	1679.5	1667.0	1662.0	1652.0	1652.0	1647.0	1644.5
15°	1684.5	1662.0	1644.5	1629.6	1619.7	1609.7	1602.2	1597.2	1592.2	1592.2
17.5°	1629.6	1609.7	1592.2	1574.8	1559.8	1552.4	1544.9	1537.4	1537.4	1532.4
20°	1569.8	1547.4	1532.4	1515.0	1502.5	1490.1	1480.1	1480.1	1475.1	1477.6
22.5°	1502.5	1475.1	1460.2	1447.7	1435.2	1425.3	1415.3	1415.3	1412.8	1410.4
25°	1427.8	1405.4	1387.9	1372.9	1365.4	1355.5	1353.1	1348.1	1345.6	1345.6
27.5°	1348.1	1330.6	1308.1	1300.6	1290.8	1285.8	1285.8	1283.3	1278.3	1280.8
30°	1263.3	1243.3	1231.0	1226.0	1216.0	1216.0	1213.5	1208.5	1208.5	1211.0
32.5°	1181.0	1161.2	1151.2	1148.7	1138.7	1138.7	1136.2	1138.7	1138.7	1141.2
35°	1091.4	1073.9	1071.4	1064.0	1061.5	1061.5	1061.5	1066.4	1071.4	1064.0
37.5°	1006.7	994.2	986.8	984.3	986.8	986.8	989.2	996.7	994.2	991.7
40°	919.5	909.5	904.5	904.5	909.5	914.5	914.5	922.0	924.4	922.0
42.5°	832.3	824.8	824.8	827.3	832.3	834.8	842.2	849.7	852.2	854.7
45°	750.0	750.0	750.0	752.5	755.0	760.0	770.0	777.4	779.9	782.4
47.5°	670.2	667.7	675.2	677.7	685.2	687.7	695.2	705.2	707.7	710.2
50°	595.6	600.6	603.1	610.4	615.4	615.4	625.4	630.4	637.9	637.9
52.5°	525.8	533.3	535.8	543.3	545.8	548.1	553.1	560.6	565.6	565.6
55°	463.5	466.0	471.0	473.5	481.0	483.4	488.4	490.8	498.3	495.8
56°	436.0	441.0	443.5	448.5	453.5	456.0	461.0	463.5	468.5	471.0
57°	411.2	413.7	421.1	423.6	428.6	428.6	431.1	438.5	438.5	441.0
58°	386.2	391.2	393.7	396.2	401.2	403.7	408.7	411.2	413.7	411.2
59°	363.8	366.3	368.8	368.8	373.8	373.8	381.2	386.2	388.7	388.7
60°	341.4	341.4	343.9	346.4	351.3	353.8	353.8	358.8	358.8	358.8
61°	318.9	318.9	321.4	323.9	326.4	326.4	331.4	331.4	333.9	336.4
62°	299.0	296.5	296.5	299.0	299.0	304.0	306.5	309.0	311.5	309.0
63°	276.6	274.1	274.1	274.1	274.1	279.1	279.1	281.6	286.5	284.1
64°	251.7	251.7	251.7	251.7	254.2	254.2	259.1	261.6	264.1	266.6
65°	234.2	229.2	226.7	226.7	229.2	231.7	234.2	236.7	239.2	239.2
66°	214.3	209.3	206.8	206.8	206.8	206.8	211.8	211.8	216.8	216.8
67°	191.9	186.9	184.4	181.9	181.9	181.9	189.4	186.9	186.9	186.9
67.5°	184.4	176.9	174.4	171.9	169.4	174.4	171.9	174.4	174.4	171.9
68°	174.4	169.4	164.4	159.4	159.4	159.4	161.9	164.4	161.9	159.4
69°	154.5	152.0	144.5	139.6	137.1	139.6	137.1	139.6	137.1	139.6
70°	137.1	129.6	122.1	119.6	117.1	117.1	117.1	114.6	117.1	114.6
71°	119.6	112.1	104.6	99.6	97.1	97.1	94.6	97.1	94.6	97.1
72°	102.1	94.6	84.8	79.8	79.8	79.8	79.8	77.3	79.8	77.3
72.5°	94.6	84.8	77.3	72.3	69.8	69.8	69.8	69.8	67.3	69.8
73°	87.2	77.3	67.3	64.8	64.8	64.8	62.3	59.8	62.3	62.3





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	29.8	22.5	20.0	20.0	20.0	20.0	20.0	20.0	17.5	17.5
80°	12.5	10.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
82.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
85°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670245859 / DESKTOP-HRDQ47P





— 0°-180°    - - 45°-225°    - - - - 90°-270°







74°	161.9	161.9	156.9	149.5	137.1	124.6	114.6	104.6	92.1	79.8	74.8
75°	149.5	147.0	142.1	134.6	124.6	112.1	102.1	89.7	79.8	67.3	62.3







74°	72.3	59.8	54.8	49.8	49.8	49.8	47.3	47.3	47.3	49.8
75°	57.3	47.3	42.3	37.3	39.8	37.3	39.8	37.3	37.3	37.3



(END OF REPORT)